The Resource Conservation Challenge

RCRA National Meeting

August 12, 2003

Arlington, VA

Today's Plenary: How It All Fits Together

Materials Management

RCRA 2020 Vision

RCC as a Program

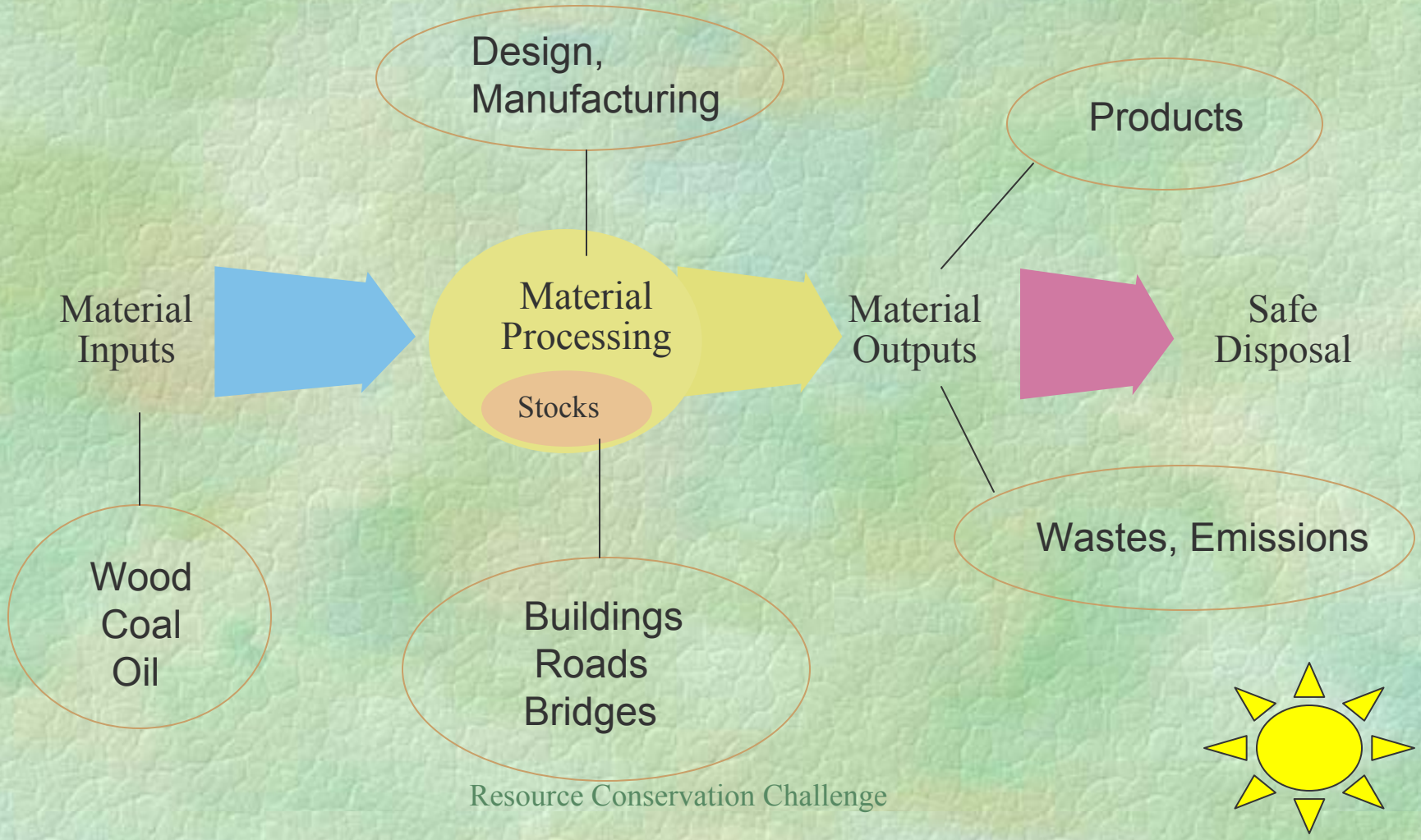
What We're Going to Cover

- Short History of the RCC Evolution (Adaptation)
- Building Blocks and Goals of the RCC
- Where We're Going with the RCC
- Participation in the RCC

Environmental Systems

- Over the last 20 yrs, we've developed and largely implemented a regulatory system that addresses releases from major sources of pollution
- This system addressed immediate threats to our health and environment and works to prevent new exposures.
  - Built to respond to media specific problems, the system has become complex and has lead to "stovepipes" around specific media.

System We Have



Current Transition Phase

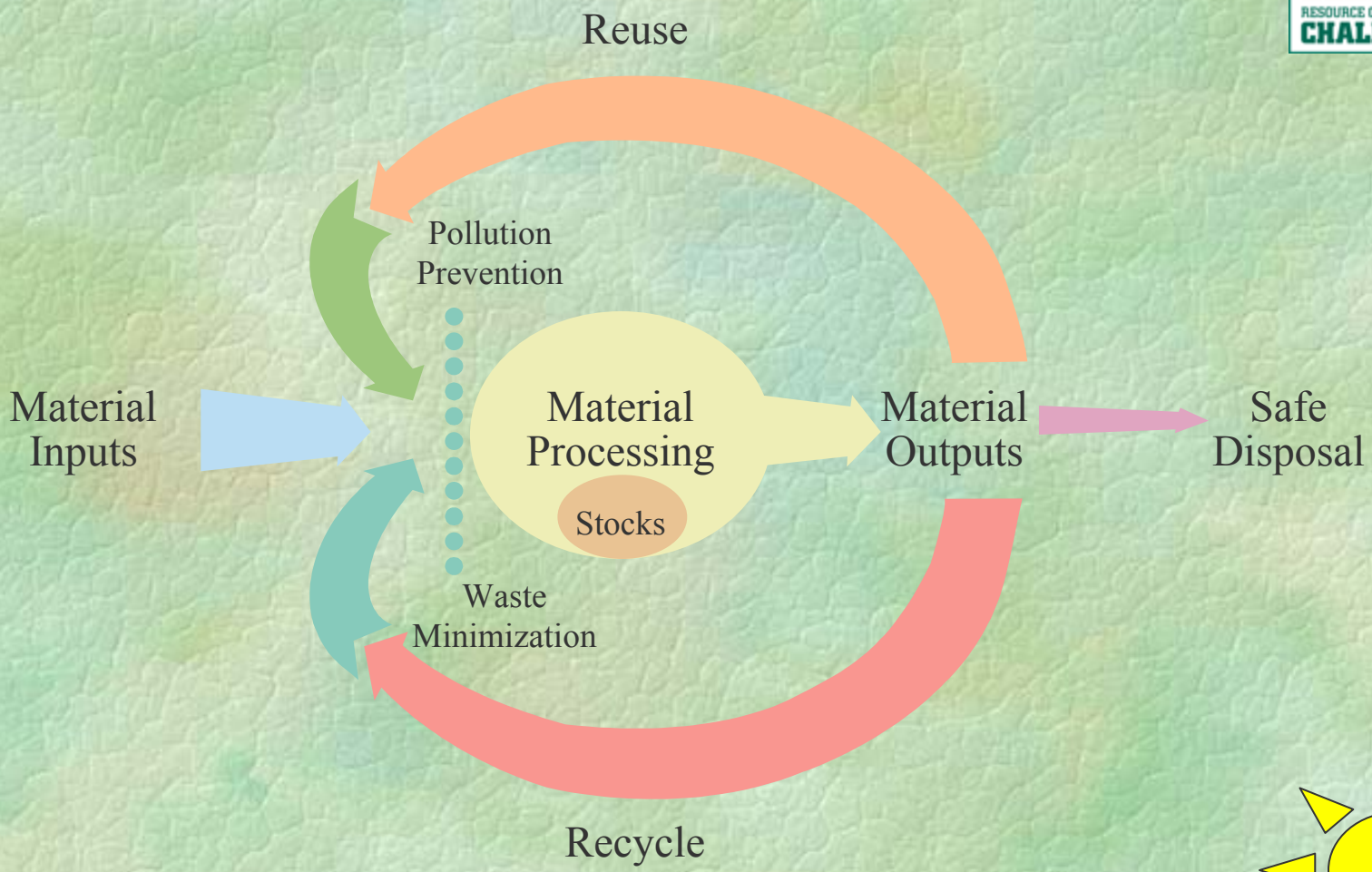
- Beyond traditional stress of population growth, we're now facing new and different problems:
  - Growth of our economy and new technologies allow process inefficiencies that waste resources to continue
  - Unregulated and new materials with unique life cycles and constituents (e.g., plasma screens)

What Type of System Do We Need For the Future?

- A focus on materials management, not just pollution management.

- We need to make significant gains in:
  - Pollution prevention, recycling, reuse of materials
  - Reducing the use of toxic constituents
  - Conserving energy and materials

System We Need (Vision)



Designing the New System

- This thinking of “stewardship”, “sustainability”, “industrial design”, “waste as food” is not new.
- Many of you already been tinkering, designing, tweaking, testing this new system.
  - It’s likely the reason you’re here today
- It’s time for everyone to learn from your successes and experiences and scale up.

Our Initial Pilot

- Let's go back almost 1 year, RCC kick off
  - Austin, TX, one good idea, one program
  - Challenging Americans to meet or beat 2 goals:
    - National recycling rate
    - 30 waste minimization priority chemicals
  - 68 projects – their hallmarks: flexibility, partnerships, innovations.

What the Announcement Did

- Generated significant interest
- Events and accomplishments quickly followed:
  - National Waste Min Partnership Program
  - BMPs for shooting ranges with lead problems
  - New Hampshire recycling event electronics
  - A historic house deconstruction and reuse, Univ of Fla, EPA, Gainesville
  - Coal Combustion Products Partnership (C2P2)

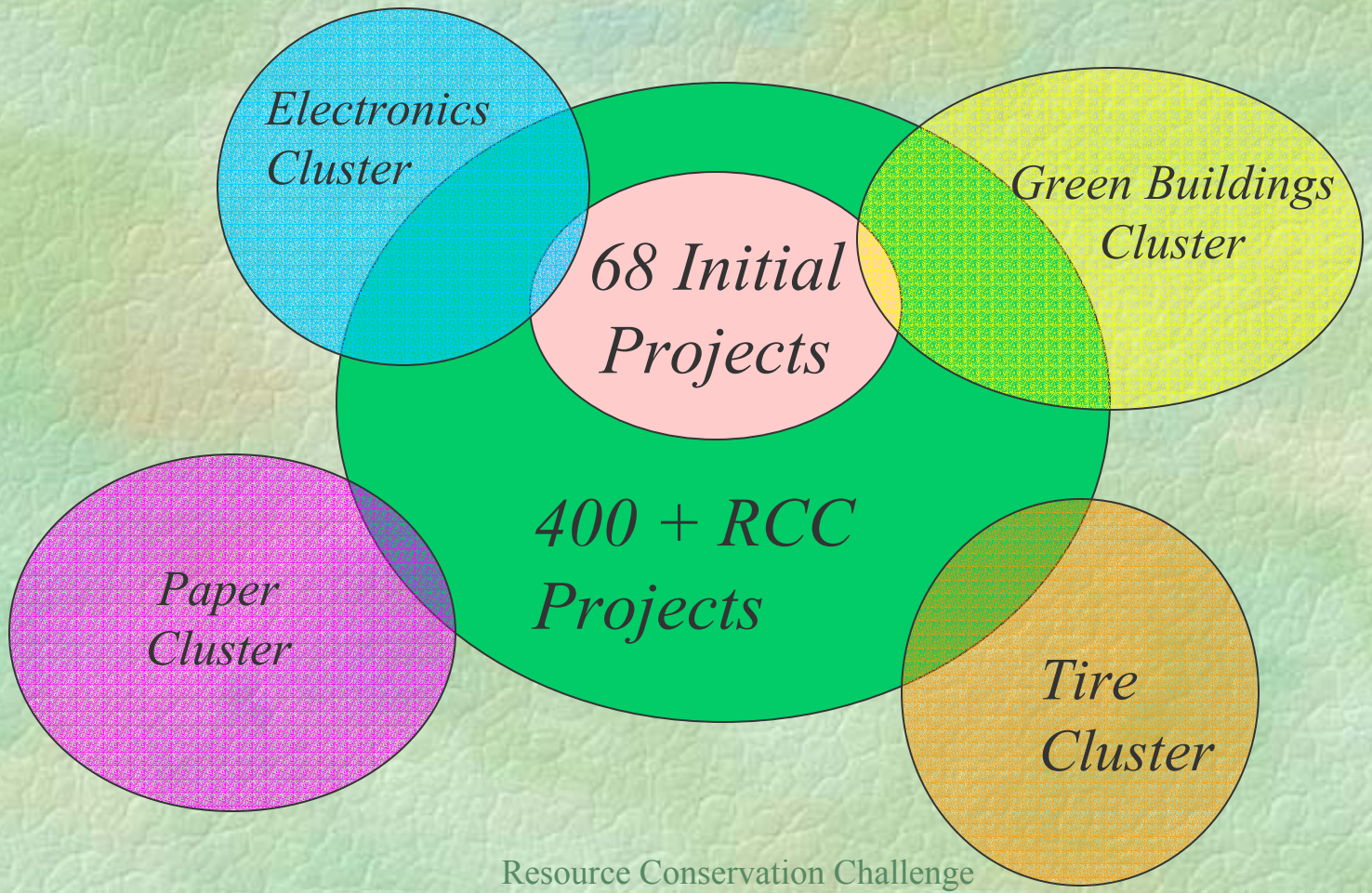
Feedback We Received

- Clear focus on waste and energy, but a material's life cycle is bigger than one program
- Are you coordinating effectively with the rest of EPA and are they ready?
- Many of you talked of:
  - Need to expand our focus
  - Need to involve other programs
  - Need to develop a working model of the program
  - Need to get input of external stakeholders

How Did We Respond (Internally)?

- Since the initial announcement:
  - Lots of internal focus on coordination, design
  - Have the attention of senior managers
    - OSWER, OPPTS, OPEI, OECA, OAR, OW, ORD, States, Tribes now involved in planning
  - We haven't lost sight of the good work on resource conservation that continues to roll right along

From Projects to Clusters to ?



How Did We Respond (Externally)?

- June meeting with external stakeholders.
  - Attended by industry, local government, trade associations, environmental groups, policy groups
  - Walked through our ideas for the RCC
  - Gathered input
- Had a dialogue

The Hardest Part is Now

- As I said, many of you have been working multi-media, cross-program, stewardship, materials management for a while.
- We're now with you.
- The biggest challenge:
  - Can we (together) go from the project level to the Program level?

RCC Program Goals

- Improve environmental awareness and positively change behaviors
- Design an environmental system that's prepared for the next 20 yrs.
- Institutionalize this system at EPA and with our State partners

RCC Environmental Goals

1. Prevent pollution and promote recycling and reuse of materials
2. Reduce the use of priority chemicals at all life cycle stages
3. Increase energy and materials conservation

RCC Key Building Blocks

- ***"Challenges"*** to address specific national environmental problems through voluntary partnerships
- ***Measurable outcomes*** to drive environmental improvement
- ***Agency coordination & alignment*** to meet challenges

Additional Building Blocks

- ***Materials life cycle approaches***, not just end of pipe solutions
- ***Appropriate tools*** to influence change in behavior
- ***Elevation of ideas*** from the local/state/regional level to national focus and from one business to an entire industry sector

Now What Do We Target?

- For RCRA, we look at wastes
- We can use any available data:
  - Biennial Report (BRS)
  - Toxics Release Inventory (TRI)
  - Franklin Report (municipal wastes)
  - Industry reports
  - Academic studies

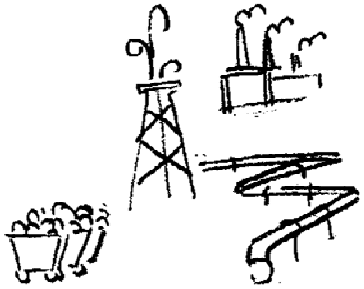
RCRA Waste Wheel

Construction & Demolition Debris

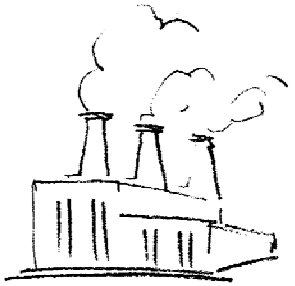
Hazardous Waste

Municipal Solid Waste

Special Waste



Industrial Waste



Targeted Chemicals Reductions Cluster

- *30 Priority Waste Minimization Chemicals*
- *Lead, Naphthalene, Dioxin*

-- Analysis of top generators by OSW/AIB
-- By SIC code
-- By Region, State

o One goal, bring partners into National Waste Min Voluntary Program and reduce priority chemical releases

Clean Water Act Discharge 450 M Tons

RCRA Hazardous Waste 40 M Tons

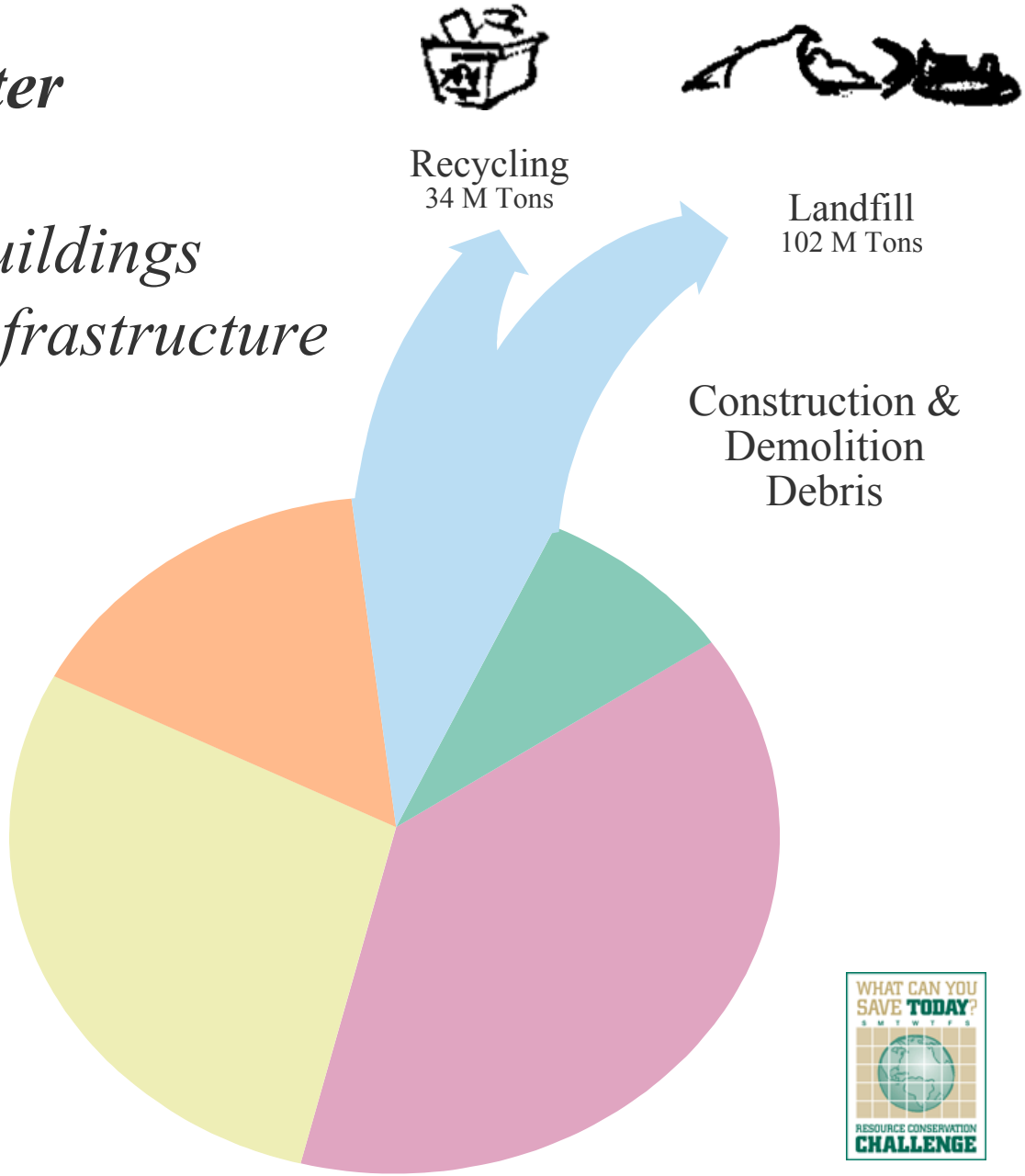
C & D Debris Cluster

-- ½ volume from buildings
-- ½ volume from infrastructure

Focusing on:

-- Design
-- Recycling
-- Reuse

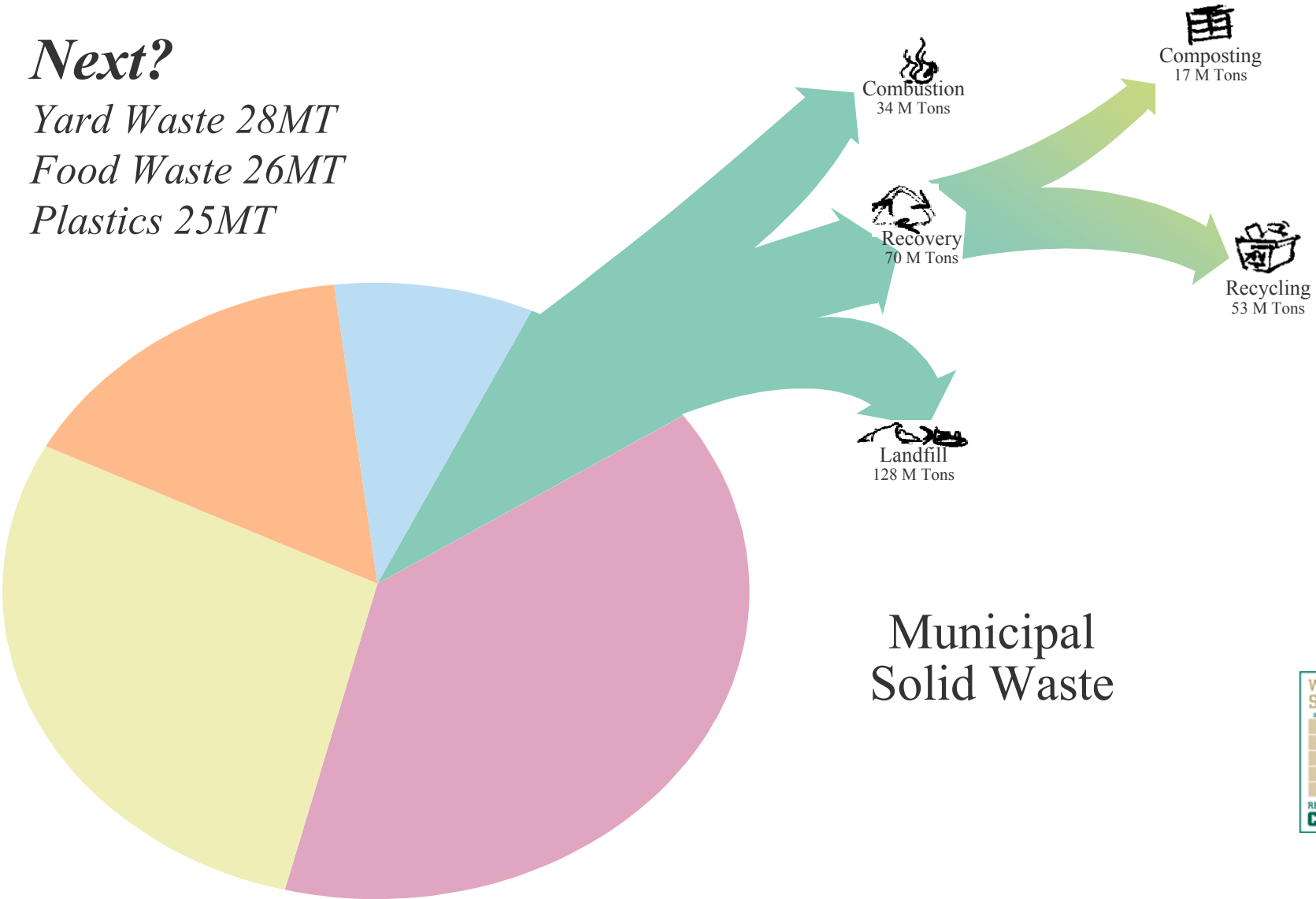
Coordination with Green Buildings



Electronics, Paper & Tire Clusters -- already in place

Next?

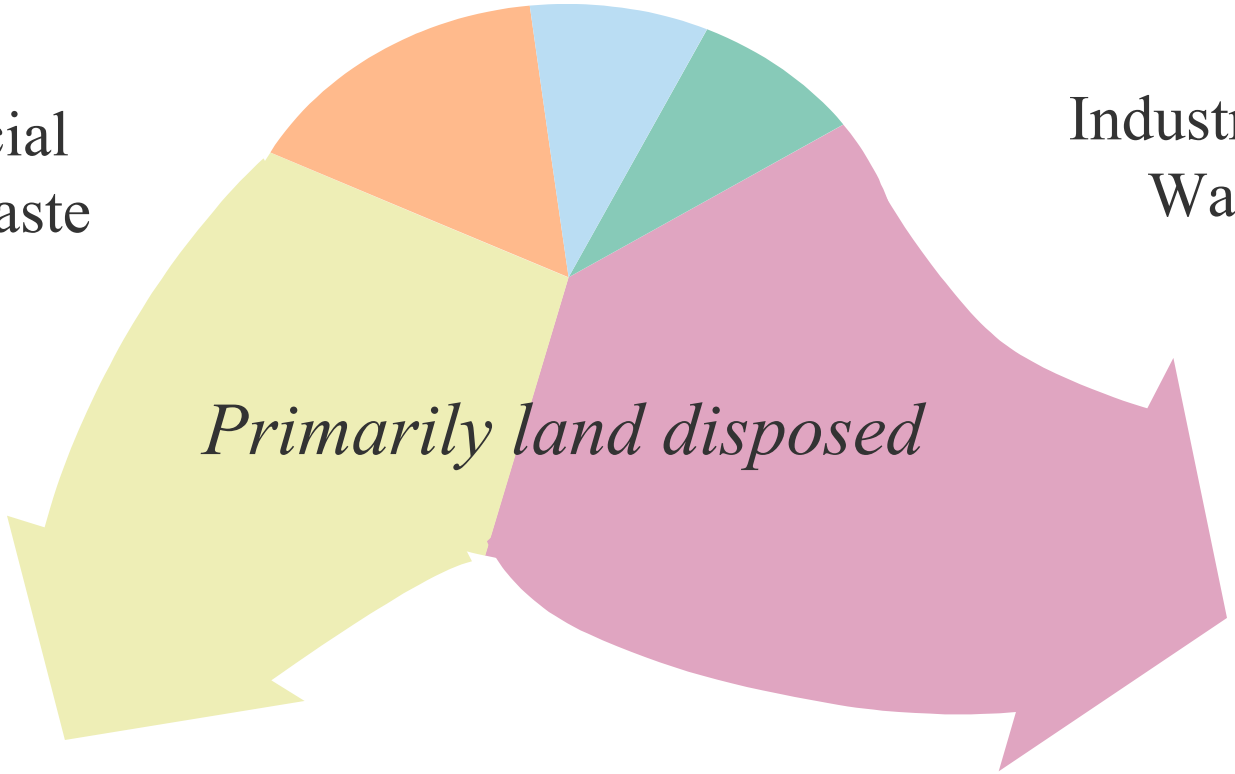
Yard Waste 28MT
Food Waste 26MT
Plastics 25MT



WHAT CAN YOU SAVE TODAY?
RESOURCE CONSERVATION CHALLENGE

Special Waste

Industrial Waste



Each with Billions Of Tons Per Year

Special Wastes

-- Mining
-- Fossil Fuel Combustion
-- Mineral
-- Oil & Gas
-- CKD

Industrial D Cluster

-- Food & Kindered Products
-- Inorganic Chemicals
-- Scrap Steel
-- Stone, Clay, Glass
-- Pulp & Paper
-- Fertilizer & Agriculture

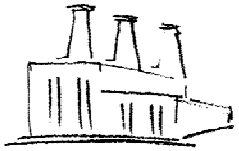
WHAT CAN YOU SAVE TODAY?
RESOURCE CONSERVATION CHALLENGE

Current 2003 "Clusters"

- Green Buildings
- Electronics
- Tires
- Targeted Chemical Reduction
- Hospitals
- Industrial Waste
- Schools
- Paper
- Construction and Demolition Debris

Materials Life Cycle

Raw Materials



Design & Manufacturing

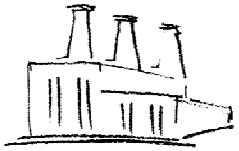
Purchase/Use

End of Life/Safe Disposal

Reuse Recycle

Materials Life Cycle

Raw Materials

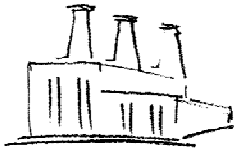


Design & Manufacturing

Questions for the Design & Manufacturing Phase

- can we use less toxic chemicals
- can we use less raw materials or energy
- can we design the product to be easily re-used or recycled
- can we make the product last longer
- can we use recycle material to make the product
- can emissions/releases be recycled
- can you reduce exposures, emissions or releases
- can we measure the environmental savings/change

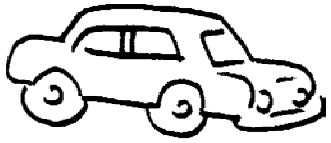
Materials Life Cycle



Raw Materials

Design & Manufacturing

Purchase/Use



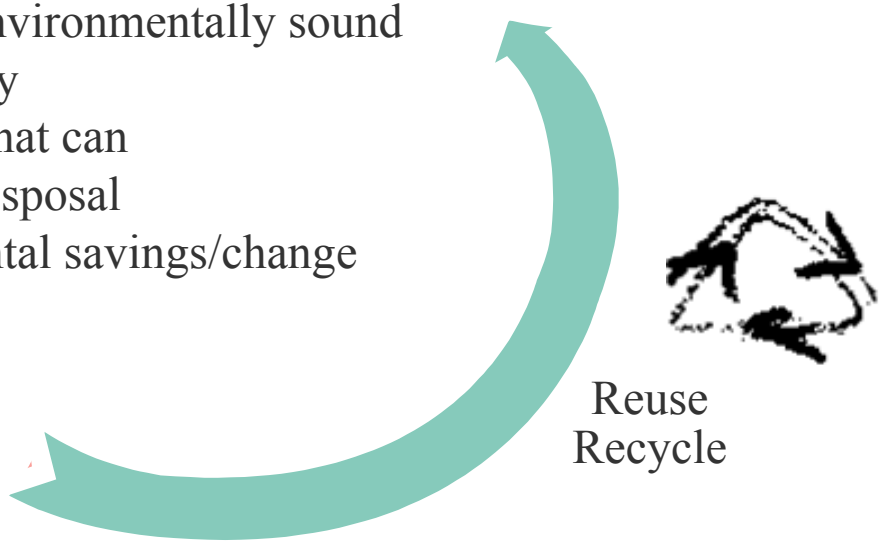
Questions for Purchasing/Use Phase:

- how do we advertise a “green product”
- is there environmental information to convey
  -- recycling/reuse information
  -- environmental implications to avoid
- can less or easier to recycle packaging be used
- can the packaging material be recycled/reused
- how can we extend the products life time
- can we measure the environmental savings/change

Materials Life Cycle

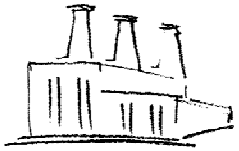
Questions for the Reuse & Recycling Phase:

- are there end use markets available for the recycled material
- is recycling made easy to the user (recycling depots/home collection)
- can the product be reused
- is reuse of the material made easy to the user (recycling depots/home pickup)
- is the recycling/reuse process environmentally sound
- is educational material necessary
- are there portions of the waste that can be reclaimed prior to ultimate disposal
- can we measure the environmental savings/change



Materials Life Cycle

Raw Materials



Design & Manufacturing

End of Life/Safe Disposal

Questions for End of Life/Safe Disposal

- can the waste be made into new feed stock
- can portions of the waste be reclaimed
- can we reduce the amount of waste
- can we use the waste to become energy
- can we increase what is recycled/reused
- can we measure the environmental savings/change

A Guide to RCC Partnerships

- Many different types of partnerships that can be developed
  - Informal to formal
  - The more EPA puts into it, the farther down the formal scale we need to go
  - The next few slides give a model for one way to become a RCC partner

Step 1: Identify Environmental Problem & Define the Challenge

- Problems should:
  - Be national in scope; or
  - Local and scalable to national level
- A challenge should:
  - Focus on “unfinished business”; and
  - Fit within 1 or more of the RCC goals

Step 2: Identify and Dialogue with Partners

- Partners may include as few as two, but may range into the hundreds.
- Can involve government (Fed/State/local), industry, universities, public interest groups, trade associations
- May be iterative once solutions are identified, new partners may be needed

Step 3: Identify and Develop Solutions

- Solutions may solve entire problem (life cycle) or deal with a particular part
- Groups are encourage to put together implementation plans, timelines
- To ensure measurable environmental results, we also are looking for objectives, targets and measures (milestones)

Step 4: Announce Partnership and Agreement

- Agreements will vary based on several factors (e.g., who are the partners, what level of commitment)
- Formal agreements may involve a Memorandum of Understanding, whereas informal agreements could involve a discussion and understanding between the parties

Step 5: Publicize Reaching Major Milestones

- Based on your implementation plan and types of measurement milestones will be identified
- Documentation will help to provide success stories for others with the same or similar problems, allow EPA to publicize on our webpage or in reports

Changes in Behavior

- At all levels, the RCC is about changing behaviors to undertake an improved environmental ethic.
- The slogan: “What can you save today?” asks each of us to change our behavior.
- There are many drivers, tools, and incentives that have the potential to assist in these changes.

Drivers of Change

- External
  - Market Forces
  - Laws & Regs
  - Public Opinion
  - Shared Data
  - International Climate
- Internal
  - Org. Culture
  - Cost Reductions
  - Liability and Insurance
  - Improved Image
  - Purchaser Specifications

Incentives for Change

- There are numerous rewards and benefits from making positive environmental changes, for example, EPA may provide:
  - Public recognition
  - Federal purchasing power
  - Lower inspection priority
  - Use of EPA/program logos
  - Grant money
  - Regulatory flexibility

Tools to Achieve Change

- Examples of tools include educating on the use of and/or providing:
  - Compliance assistance
  - Environmental management systems
  - Performance measurements and environmental indicators
  - Reward-based programs
  - Supplemental environmental projects

What is Lean Manufacturing?

- A business practice focused on the endless identification and elimination of waste.
- Lean requires agile processes to produce and deliver high quality products and services to fast changing markets and cost sensitive customers.
- Lean accomplishes this through the ***systemic identification and elimination of waste***, with an emphasis on ***continuous improvement and employee involvement***.

Lean & Environment

- Lean produces an operational and a cultural environment highly conducive to waste minimization and pollution prevention.

1. Naugatuck Glass Company in Connecticut
2. Bridgestone/Firestone in Aiken, South Carolina

What If It Doesn't Fit In a Current Cluster?

- Naively, we asked our Regions a simple question, "so what are your RCC projects?"
- They responded with over 400 projects related to our three RCC goals
- Many of these don't fit into one of the current clusters, but have tremendous potential to be the next cluster or an idea that could grows into a cluster.
  - The RCC needs to find those diamonds in the rough.
- Others projects have the ability to reach consumers and targeted groups to educate and motivate.

Examples of Life Style Projects

- The "You Dump It, You Drink It" used oil campaign provides educational materials in both Spanish and English.
- Public Service Announcements – EPA is reaching out to the urban African American community to build neighborhood support recycling and sound waste management. Radio PSAs currently running in the 10 largest African American radio Markets.
- Hollywood messages

Is the RCC Working?

- Yes, many of the clusters are meeting this week in an effort to keep moving through their partnership steps.
- Additionally, there are many, many sessions during the conference focused on RCC topics, ideas, and projects.

Green Buildings (Tues, right now)
Economic Benefits of the RCC (Tues, 4:00)
Fuel Cells (Wed, 8:00)
Landfill Gas to Energy (Wed, 9:45)
Tire Derived Fuel (Wed, 12:30)
Lead Reductions (Wed, 8:00)
Waste Min Partnerships (Wed, 12:30)

Product Stewardship (Wed, 8:00)
C & D Debris (Wed, 4:00)
Electronics (Thurs.,)

Go Do Good Things

- But remember,
  - Please form a partnership
  - Please choose environmentally acceptable solutions
  - Please set goals, targets, measures
  - Please look to grow and elevate solutions
  - Please stay motivated to conserve resources